Fact Sheet

Draft General Permit - Biosolids Management

December 3, 1997

Purpose of the Permit

The Department of Ecology is proposing to issue a general permit for biosolids management. This permit implements the standards of the state's proposed rule, Chapter 173-308 WAC - *Biosolids Management,* and:

- Applies to **all** *treatment works treating domestic sewage* (TWTDS) that prepare biosolids for beneficial use, apply biosolids to the land, or dispose of municipal sewage sludge in a municipal solid waste landfill.
- Has statewide applicability except on Indian lands.
- Can be used to implement additional or more stringent requirements when necessary to protect public health and the environment.

This Permit Supports Beneficial Use of Biosolids

Recycling – beneficial use of biosolids is the predominant management choice in Washington State and for most states of the union. This permit supports the state's goal and statutory preference for the beneficial use of biosolids. Chapter 70.95 RCW, Washington's solid waste management law, places recycling ahead of all disposal options including incineration, landfill disposal, and energy recovery. Under Chapter 70.95J RCW, municipal sewage sludge that meets standards for beneficial use on the land is considered biosolids and regulated as a commodity – not as a solid waste. The statute further directs that biosolids be beneficially recycled to the maximum extent possible. The department strongly encourages all producers of biosolids to pursue recycling as a primary biosolids management method.

Public Review and Comment Period - Availability of the Draft Permit

The draft permit is available for review and comment as of December 3, 1997. A thirty-day comment period is required. Ecology has extended the comment period and has provided a week of consideration beyond the final public hearing. Written comments must be *received* at the Department of Ecology headquarters office by 5:00 P.M., January 14, 1998. All comments received by the deadline will be considered. The agency will revise the draft permit as appropriate and will develop a responsiveness summary to explain actions taken on the comments received.

The department will hold informal question and answer sessions for the draft permit, followed by formal hearings on January 5th and 7th, 1998. There will be daytime and evening events with

each formal hearing period preceded by an informal session where interested people may ask questions. The locations and times are as follows:

- January 5th - Lacey, Ecology Headquarters, 300 Desmond Drive - Auditorium
- January 7th - Yakima, Ecology Regional Office, 15 West Yakima Avenue – 2nd Floor
    - 1:00 - 2:00 P.M. Question & Answer Session
    - 2:30 - 4:30 P.M. Formal Hearing Period
    - 5:30 - 6:30 P.M. Question & Answer Session*
    - 7:00 - 9:00 P.M. Formal Hearing Period

*** The 2:30 – 4:30 hearing takes precedent over the 5:30 – 6:30 question and answer session. In the event the earlier hearing runs long, the second question and answer session may be shortened or eliminated.**

People who wish to obtain a copy of the draft permit, who have questions, who wish to submit comments, or who wish to be placed on (or removed from) the agency's list of interested persons should contact Kyle Dorsey at the Department of Ecology at 360-407-6107. Correspondence should be addressed to Kyle Dorsey, Washington State Department of Ecology, PO Box 47600, Olympia, WA 98504, or send e-mail to kdor461@ecy.wa.gov. The agency hopes to make the draft permit and an electronic comment system available on the Internet at http://www.wa.gov/ecology/swfa/ swhome.html.

Future Notification and Public Participation - Interested Parties List

The Department of Ecology maintains a list of people interested in biosolids program development. All interested parties are encouraged to have their name added to the agency's list, and to check from time to time to be certain that their listing is properly maintained and updated. The department will notify all persons on the interested parties list of significant proposals regarding the overall state biosolids program.

Facilities that must obtain coverage under this permit are also required to maintain a list of interested parties. Persons who wish to be placed on a facility's interested parties list should notify the facility manager in writing. Notification to persons on a facility's interested parties list is not strictly mandated in all circumstances by the proposed rule or permit. In certain circumstances other notification mechanisms are recognized. The proposed state rule recognizes the public notice process employed for integrated project review under the state's Growth Management Act or the public notice process required for environmental review under the State Environmental Policy Act (SEPA) when new biosolids land application sites are proposed. Persons wishing to obtain greater assurance of notification regarding the activities of a specific facility may wish to comment to that effect when the facility in question applies for coverage under this general permit. The public notice requirements of the proposed state rule are found in WAC 173-308-310(11) and in Section 4 of the proposed general permit.

Biosolids Defined – Not Solid Waste

Wastewater treatment plants produce effluent that is discharged either to the ground or to a surface water body, and residual solids, which must be used or disposed of. Residual solids include materials such as grit, screenings, ash, and sewage sludge. These materials are solid wastes subject to regulation under Chapters 70.95 RCW and 173-304 WAC. Sewage sludge that is treated to meet standards for beneficial use so that it can be applied to the land is called biosolids. This is an important distinction because biosolids are not solid waste, and are regulated as a commodity under Chapter 70.95J RCW and proposed Chapter 173-308 WAC. Municipal sewage sludge that does not meet standards for application to the land is considered a solid waste and must be disposed of in a municipal solid waste landfill. Regardless of quality, municipal sewage sludge that is disposed of in a landfill or incinerated is considered a solid waste.

Proposed WAC 173-308-080 defines **biosolids** as:

> "…municipal sewage sludge that is a primarily organic, semisolid product resulting from the wastewater treatment process, that can be beneficially recycled and meets all applicable requirements under this chapter. Biosolids includes a material derived from biosolids, and septic tank sludge, also known as septage, that can be beneficially recycled and meets all applicable requirements under this chapter…".

Like federal rules, the state rule and this permit recognize septage as a form of biosolids. The proposed state rule and approach to permitting the land application of septage are more stringent than the federal system.

Amount of Biosolids Produced

Exact figures on the production of sewage sludge and biosolids in Washington are not available. The new biosolids program will require record keeping and reporting to answer this and other questions once it is implemented. Because even small variations in biosolids moisture content can translate into very large differences in production estimates, the standard practice is to express biosolids production on a dry ton basis. The department estimates that approximately 300 facilities produce about 75,000 dry tons of biosolids annually in Washington. It is estimated that 85 percent of the biosolids produced are land applied. Most of the remainder is incinerated and some fraction is disposed in landfills.

Basis of the Permit Program

In accordance with Section 405 of the Federal Clean Water Act (FCWA), the United States EPA published 40 CFR Part 503 - *Standards for the Use or Disposal of Sewage Sludge* in February of 1993. Section 405 of the FCWA requires EPA to implement the standards of Part 503 through permits. EPA may use the National Pollutant Discharge Elimination System authorized under

Section 402 of the FCWA or another federally recognized permit program; they may also delegate authority to states that employ those or other approved systems of permitting. States that wish to seek delegation of federal program authority must implement programs that at least meet the minimum standards of the federal program. The Department of Ecology continues to have an interest in delegation of federal authority, and has been working with EPA since 1992 to develop and implement a state biosolids program that will meet federal requirements.

Federal rules relating to biosolids permitting and delegation of authority to states are presently undergoing significant revisions. 40 CFR Part 501 describes the requirements that states must meet to qualify for delegation of federal program authority. Those requirements include an approved system of permitting, which is addressed in both Parts 501 and 122. Federal rules recognize the use of general permits for biosolids management, and EPA has proposed amendments to its rules in order to make better use of general permits for that purpose.

The 1992 State Legislature voted unanimously to pass ESHB 2640, which was later codified as Chapter 70.95J RCW – *Municipal Sewage Sludge – Biosolids*. Chapter 70.95J was subsequently amended, again unanimously, with the passage of ESB 5590 by the 1997 Legislature. The primary focus of ESB 5590 was to secure a durable funding mechanism for the state program, which it did by authorizing the collection of permit fees. Chapter 70.95J directs the Department of Ecology to adopt a new program for biosolids management that at least meets the requirements of the FCWA. The agency is authorized to adopt a new rule for biosolids management, which has been proposed as Chapter 173-308 WAC, and to include a system of permitting (see proposed WAC 173-308-310).

Chapter 173-226 WAC is the state's *Waste Discharge General Permit Program.* It is issued under authority of Chapter 90.48 RCW – *Water Pollution Control*. RCW 90.48.260 authorizes full state participation in the Federal Clean Water Act. Chapter 70.95J RCW and RCW 70.95J.020 specifically authorize a state biosolids program in compliance with the Federal Clean Water Act. The department anticipates adoption of the new state rule, Chapter 173-308 WAC*, Biosolids Management* on February 4, 1998. Chapter 173-308 WAC is the state's version of the federal Part 503. Ecology anticipates issuing a final general permit on February 11, 1998.

It is the intent of the Department of Ecology to implement a biosolids management program that is protective of public health and the environment, and which conforms to both federal and state laws. After implementation of the state program, Ecology may seek delegation for authority to implement the federal biosolids program. No application for that purpose has yet been tendered.

Concept of Treatment Works Treating Domestic Sewage

To be applicable under this permit a facility must either meet the definition of a *Treatment Works Treating Domestic Sewage* (TWTDS), or be designated by the department as a TWTDS. To meet federal requirements, Ecology must construct a permit system that can be applied to all

Treatment Works Treating Domestic Sewage. Proposed WAC 173-308-080 defines **treatment works treating domestic sewage** as:

> ...a publicly owned treatment works or any other sewage sludge or wastewater treatment devices or systems, regardless of ownership, used in the storage, treatment, recycling, and reclamation of municipal or domestic sewage or sewage sludge, including land dedicated for the disposal of sewage sludge. Treatment works treating domestic sewage also includes a beneficial use facility that has been permitted in accordance with the provisions of WAC 173-308-310, and a person, site, or facility designated as a treatment works treating domestic sewage in accordance with WAC 173-308-310 (1)(b). This definition does not include septic tanks or similar devices, but may include persons or vehicles that service septic systems and centralized septage facilities that are designated as a treatment works treating domestic sewage or are applicable under this definition.

The state definition of TWTDS is substantially similar to the federal definition, but departs in some respects. The state rule provides for the inclusion of beneficial use facilities, a concept not embraced in the federal system, and is overt regarding potential designation of other facilities as TWTDS, including septage management facilities.

Fundamentally, any facility that treats or changes the quality of biosolids may be a TWTDS. Persons who simply transport, apply, or use biosolids without treating it or changing its quality are not TWTDS unless they are specifically designated as such. The majority of TWTDS are publicly owned wastewater (sewage) treatment plants. Private sector facilities may also be TWTDS. These include privately owned treatment works that treat only domestic sewage (have no industrial wastewater component). Compost facilities that use biosolids as a feedstock and facilities where septage is collected or treated prior to application to the land are also TWTDS (it should be noted that composting is a treatment process, not an end use management option).

The department may designate any person, site or facility that treats, uses, transports, or applies biosolids as a TWTDS if designation and permitting are necessary to protect public health or the environment or to ensure compliance with the requirements of Chapter 173-308 WAC. The ability to designate TWTDS is recognized in federal rules, but might more typically be used as part of a corrective action effort. In some cases a facility may wish to be designated as a TWTDS. Some landowners believe that they will be better able to compete for biosolids if they are designated as TWTDS. Land application sites that come directly under this general permit on request are termed *Beneficial Use Facilities*, another type of TWTDS.

Beneficial Use Facilities

The federal system of permitting relies on issuance of permits to treatment works treating domestic sewage. Approval of specific sites where biosolids are applied is an element of the overall facility permit, but permits per se are not issued to land application sites. Washington

State has a history of permitting biosolids land application sites under solid waste law. In particular, this is where the participation and expertise of local health departments may be of most value.

During public workshops on an earlier draft of the proposed biosolids rule, proponents for land application sites expressed the desire to have the option of coming directly under a state biosolids permit. While it is not usual to want to assume additional regulatory responsibility, in this case there was a fairly sound rationale. Proponents of the idea believed that they could better compete for biosolids to be applied on their lands if they were already approved for that purpose. They believed they would be more attractive partners for the generating treatment works because certain burdens of the permit process could be shifted to them, away from the generating facility (e.g. land application plans).

The agency viewed this proposal as not entirely essential to the program, but as having some merit. Since only TWTDS can come under a permit, it became necessary to make it possible for interested land application facilities to become TWTDS. Designation as a TWTDS can carry a significant negative connotation in the federal system, and may suggest an extraordinary need for regulatory oversight. Proponents in this case wanted to be viewed more positively, and they did not want to be characterized as "treatment works." Ultimately, the term "beneficial use facility" was adopted and defined separately from TWTDS (see WAC 173-308-080). Beneficial use facilities were then added under the definition of TWTDS, and consequently became facilities for which permits can be issued.

Beneficial use facilities may not operate as such until coverage has been obtained under this permit, but they may accept biosolids for application to the land consistent with land application plans authorized for the treatment works that are supplying the biosolids. It must be emphasized that the decision to come under permit as a beneficial use facility should not be taken lightly. Landowners who seek this designation are subject to a permit fee, and also take on significant responsibilities including compliance and enforcement liability.

Requirement to Obtain Permit Coverage

Federal rules require all TWTDS that hold NPDES permits issued under authority of Section 402 of the FCWA must also have permit coverage for final use or disposal of sewage sludge. Some facilities are TWTDS but do not hold NPDES permits (e.g. private compost facilities, treatment works with spray irrigation fields, septage treatment facilities). EPA requires the submittal of limited information from those facilities in what is called Part I of the federal permit application. EPA would use the information provided in Part 1 to make a determination as to the need for a permit. Ecology expects that EPA would ultimately issue permits to most TWTDS in Washington State.

Proposed WAC 173-308-310(1)(a) requires that all TWTDS come under permit. Exceptions are allowed for some compost facilities that have biosolids as a feedstock and for septage

management activities. These exceptions are possible under the state system because the federal system does not explicitly require them to obtain permits, only that Ecology have the authority to bring them under permit. Ecology is prepared to recognize a local permit for those facilities if the agency is satisfied that the requirements of the state program will be met.

Contents of a Permit Application

Treatment works treating domestic sewage that apply for coverage under this permit must submit either a complete permit application, or a notice of intent which is followed at a later date by complete permit information. The contents of a complete permit application are described in proposed WAC 173-308-310(5), and in summary include the following:

- A statement of the applicable activity(ies) for which coverage under the permit is sought.
- The name of the general permit (Biosolids Management).
- Basic facility information including name, name of contacts, location, and relevant jurisdictions.
- Information on other environment permits.
- Maps showing the location of the facility.
- Biosolids data and data from existing land application sites.
- A basic description of the applicant's biosolids management practice.
- Land application plans, as required.
- Information on past, current, and future biosolids production and use.
- Other information the applicant deems helpful or that is required by the department.
- Proof of public notice, as required under proposed WAC 173-308-310(11)(a)(v). Substantiation of public notice is required for the initial application for coverage under the general permit as well as for subsequent site specific land application plans submitted for approval.

The complete permit application or notice of intent must be signed and certified as specified in proposed WAC 173-308-310(8).

Approval of Coverage

To gain coverage under this general permit, an applicant must:

- Show that the facility meets the definition of a TWTDS as provided in proposed WAC 173-308-080, or be designated as a TWTDS either as a beneficial use facility or in accordance with proposed WAC 173-308-310(1)(b).

- Engage in the preparation of biosolids for application to the land, application of biosolids to the land, disposal of municipal sewage sludge in a municipal solid waste landfill, or be engaged in related activities that result in designation as a TWTDS.
- Submit a complete permit application within the time frames prescribed in proposed WAC 173-308-310(4), and as otherwise generally required under proposed WAC 173-308-310. Smaller facilities are allowed to submit a *notice of intent* followed by a complete application at a later date. Notice of intent is not available to larger facilities.
- Carry out public notice as required under proposed WAC 173-308-310(11), and public hearings if required, in accordance with proposed WAC 173-308-310(12).
- Comply with requirements of the State Environmental Policy Act (SEPA) as stipulated under proposed WAC 173-308-310(030).
- Demonstrate intent to produce biosolids that are of suitable quality for the intended purpose, either for beneficial use on the land or for disposal in a municipal solid waste landfill. This includes providing data on biosolids quality and information on biosolids management practices including land application plans as required.

Provisional coverage under the general permit is effective on receipt of a complete permit application or notice of intent. Provisional coverage allows a permit holder to continue existing practices in compliance with the basic requirements of the rule and permit. Formal coverage is obtained after review and approval of the permit application, including any plans submitted with the application, by the department. Review of specific sites proposed at a later date may lead to additional conditions in site specific land application plans, which become fully enforceable elements of a facility's permit coverage on approval by the department.

Provisional Approval

There are many good on-going biosolids management programs and projects in the state. Some are initiated and carried out in an entirely satisfactory manner by knowledgeable managers, where regulatory presence helps assure compliance but does not fundamentally change the nature of the project. It is presumed that existing programs have been operating under solid waste permits issued by local health departments and will be substantially in compliance with the new state program. The Department hopes to secure the continued participation of local jurisdictional health departments across the state in implementing the new biosolids program. Where resources are strained, Ecology believes it would be a poor regulatory approach to order fundamentally sound existing programs to cease until new permitting is completed, or to impede the development of new programs. In simple fact, municipal sewage sludge or biosolids is an unavoidable product of wastewater treatment and its generation and active management cannot cease without virtually shutting down wastewater treatment.

To address situations where resources are strained and to allow a focus on projects of greatest interest, the proposed state rule incorporates a permit mechanism called "provisional" approval under WAC 173-308-310(17). Provisional approval is essentially permission to carry on an existing practice or to engage in a new or altered practice if certain conditions are met. Facilities operating under provisional approval have standing under the permit but are subject to further review and approval at a later time. They must comply with all applicable standards of the rule and permit, including timely submittal of an application or notice of intent. They must comply with requirements of the local health department, and may not obtain provisional approval if Ecology objects. They are not accountable under provisional approval, however, for compliance with additional or more stringent requirements that may eventually be imposed after final review. Provisional approval for new operations or for significant changes to existing operations operates similar to that for existing operations, except that public notice must be carried out and there must be no sustainable objections to a proposal.

Compliance with the State Environmental Policy Act

It must be stressed that threshold determinations under SEPA are the province of the lead agency and responsible SEPA official, therefore blanket pronouncements cannot be made in this fact sheet. Only a general discussion of the SEPA process as it relates to biosolids permitting can be entertained here.

Treatment works treating domestic sewage that come under this permit must also comply with requirements of the State Environmental Policy Act (SEPA) per proposed WAC 173-308-030. Generally, compliance involves completing an environmental checklist to be reviewed by the lead SEPA agency, which makes a threshold determination of environmental impacts and carries out a public notice of the determination. Potential outcomes are a Determination of Nonsignificance (DNS), Mitigated Determination of Nonsignificance, or Determination of Significance. The latter leads to preparation of an environmental impact statement (EIS). If an EIS must be prepared, approval for the activity in question cannot be obtained under this permit until the EIS is completed. It is expected that most biosolids related proposals will not result in significant adverse environmental impacts, and in most cases a DNS will probably be issued (this has been the bulk of past experience). Mitigation may be appropriate in some cases, but alternatively can probably be addressed as a condition of permit coverage or approval of a general or site specific land application plan.

The Department of Ecology has issued a Determination of Nonsignificance for the state biosolids rule, and expects to do the same for this general permit. The rule and general permit, however, are largely at the programmatic level. For the most part they do not reflect specific proposals or sites, and no significant adverse impact is anticipated as a result of their implementation.

As the permitting process moves forward, SEPA may be required at different steps. As a facility applies for coverage under this permit, a SEPA checklist should also be completed. When the proponent is a governmental agency (e.g. a municipality operating a wastewater treatment plant)

it is expected that lead agency status will fall to the proponent agency in accordance with WAC 197-11-926. In cases where the proponent is from the private sector, lead agency status may fall to a local government agency or the Department of Ecology. It may be possible to make other arrangements regarding lead agency status.

A permit application will contain more project related information than either the rule or general permit. Once a complete permit application is in hand it starts to become possible to evaluate site related environmental impacts. If a permit application contains one or more site specific land application plans, a detailed evaluation can be conducted based on information provided in the checklist, plan(s), and other supporting documents. If only a general land application plan is provided, SEPA review may again be more programmatic in nature until site specific land application plans are proposed at a later date. Depending upon the nature of the proposal, a general land application plan may address most or even all site specific issues. In such case, the only future action required may be an addendum to the original SEPA checklist. As was previously stated, these are project level decisions that should remain in the province of the responsible SEPA official.

The department is aware of potential redundancy in the SEPA and biosolids program permit process, particularly as pertains to public notice. Ecology encourages coordination of SEPA notice requirements with those required under the proposed biosolids rule and this general permit. We will continue to evaluate the most efficient approaches in this respect and may make recommendations from time to time.

Public Notice

The Department of Ecology carries out public notice as a part of the process of issuing a general permit. Public notice requirements for facilities subject to this permit vary depending on the purpose the notice is serving and the quality of biosolids being managed. When a facility applies for initial coverage under the general permit it must carry out public notice for that purpose as specified in proposed WAC 173-308-310(11). Notification must be made to the general public, affected local health departments, and interested parties. Generally, publication in a newspaper is required for initial pubic notice. Notification of affected local health jurisdictions and interested parties is by direct mail. When biosolids that do not meet the most stringent standards of the rule will be applied to the land, posting of sites is also required. Some facilities may add new sites in accordance with an approved general land application plan after they have received initial approval of coverage under the general permit. If public notice has not been previously carried out for those new sites, it must be done before biosolids can be applied. For sites added at a later date, required notice is limited to posting of the site, notification to Ecology and/or the local health department, and persons on an interested party list maintained by the permit holder. Public notice may also be necessary if a hearing or meeting is required under proposed WAC 173-308-310(12), and to comply with requirements of the State Environmental Policy Act under Chapter 197-11 WAC.

Past and Future Role of Local Health Departments

Washington State has had a biosolids (municipal sewage sludge) management program since the late 1970's or early 1980's. While the program has evolved significantly over time, to date, municipal sewage sludge has been managed as a solid waste. Washington's solid waste management law, Chapter 70.95 RCW, places local jurisdictional health departments in the lead for permitting solid waste facilities, and assigns Ecology a more limited role of technical assistance and administrative oversight.

In 1993, EPA removed the management of biosolids from federal solid waste rules at 40 CFR Part 257, and placed them in a new Part 503. The 1992 State Legislature foresaw this significant change in management philosophy and made a similar shift, now established in statute under Chapter 70.95J RCW. One dilemma facing the state, however, has been the stipulation in Chapter 70.95J that biosolids meet standards established by the state. Until recently, no standards existed at the state level to define the point at which sewage sludge becomes biosolids. Those standards are now proposed in Chapter 173-308 WAC, which is undergoing public review as this draft general permit is released to the public.

Because biosolids are not solid waste, local health departments and other government agencies will no longer be able to regulate them as solid waste. While Chapter 70.95J RCW provides that Ecology can delegate biosolids permit program authority to a local health department, it does not otherwise explicitly restrict the biosolids program to the Department of Ecology. Consequently, there are three management alternatives available to local health departments under the new state program.

Defer all biosolids management responsibility to the Department of Ecology. In this case little action is required. Local sewage sludge ordinances are essentially rendered moot by the shift of biosolids out of the definition of solid waste. Local health departments need take no particular action other than at some point to confirm to Ecology that they no longer wish to have a role in the management of biosolids. They may wish to remove land application of sewage sludge from their local ordinances.

Implement a separate local program and permit authority for biosolids management. A local health department could choose to adopt a completely separate local program for biosolids management. Ecology has actively discouraged this because a separate local program would not suffice to comply with Federal Clean Water Act permit requirements. Consequently biosolids management facilities in those jurisdictions with completely separate local programs would need to fall under both the local and state permit. Ecology believes this approach would be unnecessarily burdensome to the regulated community without returning any significant benefit toward protection of public health and the environment.

Enter into a partnership with the Department of Ecology. This is the option preferred by Ecology. Although it is at least theoretically possible for the state to delegate complete permit authority to a local jurisdictional health department under provisions of Chapter 70.95J

RCW, that approach would likely be highly problematic for a number of different reasons. Fundamentally, the federal system is generally not compatible with implementation by local governments and that approach would likely create complications for delegation of federal program authority. Consequently, Ecology is hoping to delegate certain aspects of permit program implementation to local health departments, thereby creating a partnership approach.

The department has identified the review and approval of land application plans, determinations regarding public meetings and hearings, field and facility inspections, and initiation of correction of violations as potentially delegable aspects of the state program. Other aspects of the state program may also be delegable. The agency is continuing to assess the best aspects of the program for delegation and the best overall process for implementing local delegation. In accordance with proposed WAC 173-308-050, delegation will be at the request of the local health department and be executed by an instrument of mutual consent such as a Memorandum of Agreement.

Local health departments will have the primary responsibility for implementing delegated authorities. Ecology will provide technical assistance and oversight. Ecology also expects to support local health department decisions. Since this may include appeals before the Pollution Control Hearings Board, some framework must be established for local decision making. It is likely that Ecology will support independent decisions of local health departments that are consistent with Ecology's *Biosolids Management Guidelines*, WDOE 93-80. Decisions that are more or less restrictive than the guidelines or which fall beyond the scope of the guidelines may require prior concurrence by Ecology. In cases where there is consistent disagreement with a particular local requirement, a local jurisdictional health department could adopt a specific ordinance for the purpose in question. Compliance with local laws is a requirement of the proposed state rule and this permit, but implementation and enforcement would remain the responsibility of the local jurisdiction. These details should be worked out in the memorandum of agreement established between the two agencies.

Direct Enforceability

Direct enforceability is an important concept of the federal program that is carried forward in the state program. The requirements of the rule are enforceable at all times, regardless of the status of a facility under a permit. This provides a mechanism to ensure compliance with the minimum standards of the rule, including for persons who are not required to come directly under a permit.

Comprehensive Approach to Permitting

The conditions of this permit are largely consistent with the provisions of proposed Chapter 173-308 WAC. This fact sheet provides a discussion and explanation of specific provisions of the permit but is intended only to generally inform and summarize the requirements of the permit. Affected parties are encouraged to review the fact sheet and permit in their entirety.

In the future, Ecology may issue general permits for biosolids management that focus on a limited geographic area or a more narrowly defined management practice. For example, *the use of non-exceptional quality biosolids meeting the pollutant concentration limits of Table 3 on dryland agricultural sites*. Those permits would be relatively limited in content and applicability as compared with this one. A less comprehensive approach would have an advantage in that it would be possible to more specifically describe the requirements for the particular management situation being addressed. This would eliminate certain uncertainties associated with the need to impose additional or more stringent requirements at a later date as part of the permit coverage review and approval process or through general or site specific land application plans. It could significantly reduce the effort required to prepare site specific land application plans by incorporating plans that identify most of the anticipated site specific needs for the particular management situation being addressed.

This general permit, on the other hand, is designed to be comprehensive. It has the advantage of reducing the amount of preparatory work on the front end, but the corresponding disadvantage of relying more heavily on later review and approval. This general permit will fully implement the requirements of proposed Chapter 173-308 WAC, *Biosolids Management*. Consequently it contains all of the relevant regulatory standards and requirements for preparing and beneficially using biosolids on the land. This permit includes requirements for application of bulk biosolids to agricultural land, forest land, public contact sites, land reclamation sites, and lawns and home gardens. It also includes the requirements for products derived from biosolids that are sold or given away in small quantities. Finally, the permit also contains the requirements for the disposal of sewage sludge in a municipal solid waste landfill.

Use of Plans – Additional or More Stringent Requirements

This general permit will establish most of the conditions that will apply to most of the applicable facilities statewide and is a very effective way to stretch limited resources. Because it is difficult to anticipate all of the variables that might be encountered at various facilities and land application sites, the permit system is designed so that requirements beyond those of the basic permit or underlying state rule may be imposed where necessary. The authority for additional or more stringent requirements may be found in proposed WAC 173-308-130 and 173-308-310(14), and the concept is generally consistent with the intent of permitting under the federal system. This approach allows the state to take advantage of the resource efficiencies of a general permit, while providing enough flexibility to assure continued protection of public health and the environment.

Additional or more stringent requirements may be imposed for a facility in general, for a specific land application site (or both). These conditions may be a contingency for approving coverage under the general permit or may be imposed in a land application plan. When facilities propose to apply biosolids to the land that do not meet the most stringent standards of the state rule, the basic requirements of the general permit are augmented by a requirement to incorporate a

general and/or site specific land application plan. Additional or more stringent requirements for individual sites may then be established in the plans on a case-by-case basis as necessary.

Facilities that are subject to the permit may identify all sites where they intend to apply biosolids at the time they submit their initial permit application. In this case a separate plan for each land application site must be submitted with the permit application. Facilities that wish to incorporate additional sites at a later date must submit a general land application plan for approval with their permit application. Site specific land application plans for new sites may then be proposed at a later date, but must be consistent with the approved general land application plan. The general plan acts as a scoping notice to interested people and jurisdictions, and advises them of biosolids management activities that might be carried out by the applicant, allowing them to determine their potential level of interest or concern. All plans are subject to final review and approval and become fully enforceable elements of the permit. The contents and requirements for submittal of plans is detailed in proposed WAC 173-308-310(6).

The permit system established under proposed Chapter 173-308 WAC and implemented in this general permit is a powerful tool. Additional or more stringent requirements can include increased monitoring, further restrictions on pollutants, adjustments to site management and access requirements, and virtually anything else necessary to protect public health and the environment. Permit managers need to be mindful that additional or more stringent requirements are subject to appeal before the Pollution Control Hearings Board as provided under proposed WAC 173-308-310(24). Therefore any such requirements should be carefully thought out and reasonably defensible. Biosolids managers should also consider that the long term success of biosolids management in Washington State depends heavily on their ability to evidence good environmental stewardship. In reaching a final decision on additional or more stringent requirements it is a good approach for all parties to consider the position of the others. In the end, well-balanced decisions are more likely to be accepted or at least defensible.

Beneficial Use – Application of Biosolids to the Land

This permit establishes requirements when bulk biosolids are applied to agricultural land, forest land, public contact sites, land reclamation sites, and lawns and home gardens, and when biosolids are sold or given away in a bag or other container. This permit also recognizes septage as a form of biosolids and establishes requirements for the application of septage to the land.

Characteristics of Biosolids

When sewage is treated in a wastewater treatment plant, solids are produced. These solids can be a primary product resulting from initial processing of sewage influent, a secondary product resulting from the production of biomass in the wastewater treatment process, or a combination. Somewhat contrary to their name, biosolids are not necessarily solid at all, and can vary greatly in moisture content, from nearly all water (@ 1 percent solids), to nearly all solids (@ 100 percent solids). Moisture content depends greatly on the method of treatment and processing,

which in turn depends on the design of the treatment facility and the goals of the treatment plant manager.

Prior to treatment and meeting standards for beneficial use, the solids are referred to as sewage sludge. A typical wastewater treatment plant undertakes processes to treat the sewage sludge that it produces. These processes range from relatively simple drying beds to complex digestion systems that trap and use methane gas produced by the digestion process. Many different methods of treating sewage sludge are available and in use. Two important goals of sewage sludge treatment are vector attraction reduction, often accomplished by a reduction in volatile solids content, and reduction of pathogens, usually by encouraging competing organisms or creating physical conditions generally unfavorable to the survival of the pathogens. Pathogen reduction is important to protect public health. Vector attraction reduction is designed to discourage the primarily odorous characteristic of biosolids that may attract organisms capable of transmitting disease, such as flies. When municipal sewage sludge has been treated to meet standards established for beneficial use, it becomes biosolids. This permit specifies the processes and qualitative standards that sewage sludge must achieve in order to be recognized as biosolids.

When biosolids are applied to the land, the organic material in them can help to improve soil characteristics. It can add water-holding capacity to soils that are too well drained, and improve infiltration on more poorly drained soils. Biosolids can also improve resistance to wind erosion by binding small particles of soil together and improving soil aggregation. Biosolids also contain virtually all of the essential plant nutrients. They are a valuable source of nitrogen, s primary or macronutrient, and they are also a source of micronutrients such as zinc. The contribution of nutrients to the soil from biosolids is important because over time soils can become depleted of nutrients; some micronutrients in particular are not readily available in commercial fertilizers. Unfortunately, along with nutrients, biosolids carry pollutants that serve no beneficial function in plant or animal metabolism, such as lead. Biosolids can also contain pathogens, and can attract vectors such as flies that are capable of spreading disease. While biosolids are valued for their nutritive value, they are regulated for these latter reasons: pollutants, pathogens, and vector attraction.

Pollutants Regulated

This permit regulates pollutants in biosolids including inorganic and organic constituents and pathogens. The standards of the state program are largely the same as those of the federal program for most pollutants that are regulated. Inorganic pollutant concentration limits are proposed in WAC 173-308-160. Ceiling (maximum) concentrations are established for arsenic, cadmium, copper, lead, mercury, molybdenum, nickel, selenium, and zinc in what are often referred to as the *Table 1* values. Long-term cumulative pollutant loading rates and lower (alternative) pollutant concentration limits are established for arsenic, cadmium, copper, lead,

mercury, nickel, selenium, and zinc in what are often similarly referred to as the *Table 2* and *Table 3* values, respectively.

Nitrogen is a nutrient, but can also be a pollutant. Nitrogen in biosolids exists in two primary forms: organic and inorganic. Inorganic nitrogen is typically in the nitrate or ammoniacal forms (usually dominated by the ammonium form), the latter of which typically dominates the inorganic nitrogen in biosolids. The remainder of the nitrogen, and the most predominant form overall is organic nitrogen, which is bound up in many different complex molecules which are the residual components of plant and animal matter.

Excess nitrate nitrogen in the soil can leach into ground water, and excess nitrogen (ammonium and nitrate) can leach to surface water in runoff. Organic nitrogen is not available for uptake by plants and does not leach into ground water. Some portion of the organic nitrogen is converted to available forms by soil biota, however, and that portion must be considered in determining the proper biosolids application rate. This permit requires application of biosolids at an agronomic rate in accordance with proposed WAC 173-308-190, as does the federal rule. EPA and states have adopted different methods for determining agronomic rates, and Washington has guidance documents available that may be of assistance in this area.

Pathogens are also considered pollutants and standards are contained in proposed WAC 173-308-170. Biosolids must be treated to meet one of two pathogen reduction standards: Class A or Class B. Biosolids meeting the Class A standard are considered to be virtually pathogen free, and may be used on lawns, in gardens, and on areas of high public contact. Biosolids that meet the Class B standard are also safe for use on the land, including food crops, but there are additional restrictions on site access and management, including when crops may be harvested.

This permit implements pathogen reduction standards of the state rule that are the same as those in the federal rule in Part 503. There are six alternatives to achieving Class A, and three for achieving Class B. In all Class A alternatives certain operating parameters must be adhered to and sampling for pathogens or indicator organisms must be carried out. Class B biosolids must meet either a performance standard or meet a maximum allowable concentration of fecal coliform bacteria.

Alternative Pollutant Limit Concept

EPA conducted a risk assessment in support of the Part 503 biosolids rule. In the end they focussed on ten pollutants of concern. Chromium was eventually removed as a regulated pollutant after an industry challenge and subsequent review by the courts. The ceiling limit for molybdenum was retained, but the remaining values were temporarily removed while EPA reevaluates them. This permit proposes the same standards and approach to pollutant regulation as the federal system.

Presently, long-term cumulative loading limits (the risk derived numbers) are in place for eight pollutants under Table 2 (see proposed WAC 173-308-160). The pollutant concentration limits of Table 3 are sometimes referred to as *alternative pollutant limits*. In part, EPA derived the limits of Table 3 by back-calculating the allowable concentration of pollutant in biosolids, assuming that ten metric tons per hectare would be applied for one hundred years before the cumulative pollutant loading rates in Table 2 would be reached. This scenario was envisioned for agricultural applications. Other uses such as land reclamation might employ more biosolids, but EPA expects that biosolids would not be applied for as many years. Biosolids meeting or bettering the lower pollutant concentration threshold are not subject to the cumulative pollutant loading rates and also enjoy certain other regulatory relief described in the permit. For a typical biosolids application in Washington State, the incremental amount of pollutant added to the soil is so small that it would take decades and in some cases centuries to reach the cumulative loading limits of the rule. This approach encourages wastewater treatment managers to pursue programs such as pretreatment, which have been shown to reduce pollutant loading to the sewage treatment plant. A reduction in influent pollutant loading results not only in cleaner biosolids but in cleaner effluent as well.

The Exceptional Quality Biosolids Concept

There are three fundamental measures of biosolids quality: pollutant concentration, pathogen reduction, and vector attraction reduction. Biosolids must not exceed limits established for maximum pollutant concentrations, sometimes referred to as *the ceiling concentration limits* or *Table 1* values. Biosolids may also meet a more stringent threshold, referred to as *pollutant concentration limits* or the *Table 3* values. Biosolids must at least meet a Class B pathogen reduction standard, but may be further treated to meet the requirements for Class A. The third qualitative standard for biosolids is called vector attraction reduction, which approximates the idea of odor control but is not strictly synonymous. Biosolids may be tilled into the soil or injected to address vector attraction reduction, or vector attraction reduction may be met in the treatment process prior to land application.

Exceptional Quality or *EQ* is a term that has become ingrained in the business of biosolids management. EQ is a shorthand reference for biosolids that meet the most stringent standards in each of the three qualitative categories describe above. It is common to hear the term misused to describe only the pollutant concentration element, but that is incorrect as we have stated here. To further illustrate this point, consider that in Washington most biosolids meet or even fall well below the pollutant concentration limits of Table 3. This then is not an "exceptional" characteristic, at least in Washington. Most biosolids produced in Washington, however, do not achieve the Class A pathogen reduction level and are managed as Class B material. Those biosolids which meet all three qualitative standards can more properly be considered exceptional in quality.

Exceptional Quality biosolids can be applied directly to lawns, in home gardens, and on areas of high public contact. They may be used as components of topsoil, soil amendments, and compost products that then end up on the aforementioned areas, and can be sold or given away directly to the public with few restrictions. In fact, the preceding uses have been in common practice in Washington and other states for many years. This is because the management effort is invested in the front-end of the process, and the regulatory focus is then on the treatment and quality of biosolids, not the end use. Essentially, EQ products can be treated similarly to other similar commercial products.

Water Resource Protection

Protection of both surface and ground water resources of the state is of paramount concern to the Department of Ecology. Therefore this permit implements specific requirements in these regards in accordance with proposed WAC 183-308-190.

The department believes that good management practices coupled with a thoughtful determination of the proper agronomic rate will be protective of the state's water resources. Application at agronomic rates is required unless biosolids are being applied for research purposes or for land reclamation. In these latter cases additional requirements are in place to protect the groundwater resource. Research efforts must be designed to minimize the threat to ground water, and must include a research proposal assessing and justifying the proposal. For land reclamation sites a site specific management plan addressing application rates must be approved by the department. A minimum setback of 100 feet is required to any wellhead unless otherwise specific in an approved site specific land application plan. Further, whenever the department believes there is a potential for contamination of ground water, a hydrogeologic evaluation of a site may be required in accordance with Chapter 173-200 WAC, *Water Quality Standards for Groundwaters of the State of Washington*. Also, this permit further requires that whenever the seasonal high level of ground water is expected to be within two feet of the ground water surface, a ground water protection plan is required.

Surface water is not present on or even near all biosolids application sites. When it is, the potential for contaminated runoff from the application site should be carefully evaluated and proper buffers should be established in the site specific land application plans required by this permit. The potential for surface water runoff at any site depends on a larger number of factors including slope, vegetative cover, soil characteristics, climate, type of biosolids applied, method and timing of application. The minimum setback to surface water for non-exceptional quality biosolids is ten meters. This standard is taken from the federal rules in Part 503. While it may be adequate in many cases, in other cases larger buffers may be necessary. Surface water monitoring may be an appropriate tool to help assess the adequacy of a buffer if there are doubts, or as a point of negotiation to increase or decrease the width of a proposed buffer.

Septage Management

Like the federal system, state rules recognize septage as a form of biosolids. Septage is a broad term which includes domestic septic tank pumpings and other forms of holding tank septage such as that removed from, recreational vehicles, marine sanitation devices, and portable toilets. Federal rules allow for land application of septage, but impose more stringent requirements for site management and access. The proposed state rule and this permit take a similar approach, but the state system is both somewhat broader and more restrictive than the federal system. This permit implements septage management requirements consistent with proposed WAC 173-308-270.

The state system identifies three type of septage. Type 1 is typical domestic septage, and Type 3 is material of a similar nature that but which is produced from a commercial or industrial facility. A common example cited for the purpose of illustration is a business office located outside a sewered area and served by an on-site septic system. Type 2 septage can be generally be categorized as holding tank septage. Typical holding tank septage has had substantially less residence time in a treatment system as compared with domestic septage. It is also typically less diluted than domestic septage, and therefore contains higher concentrations of similar constituents. The septic service industry also provides service to grease traps such as those associated with restaurants and other food preparation establishments. Ecology recognizes that it may be difficult for persons who service and pump septage holding facilities to restrict themselves to one type or source of septage. Therefore allowance is made for the inclusion of Type 2 material with batches managed as Type 1.

The federal system strongly encourages the application of septage the land at a rate derived from a simple equation based on the nitrogen need of the crop (Nitrogen needed in pounds per acre divided by .0026 equals maximum gallons of septage per acre per year). Ecology incorporates this same approach, but allows for a more detailed approach to agronomic rate determination if the septage is managed substantially as biosolids derived from sewage sludge. Persons interested in septage management are strongly advised to review and give careful consideration to this aspect of the state program.

There are other departures from the federal approach to septage management as well. Notable requirements of the state system include screening to remove debris (proposed WAC 173-308-270(2)), and annual reporting under proposed WAC 173-308-270(9).

Labeling

Under proposed WAC 173-308-260, Ecology struggled with the best approach to labeling and information requirements for biosolids products that are sold or given away to the public. During initial public review of the draft rule there was substantial argument for adhering strictly to federal labeling requirements, which Ecology found inadequate. Yet there was some merit to the concept of a standardized approach to labeling in order to facilitate transfer of products

across state lines. Ultimately Ecology settled on an enhanced state labeling requirement, but one that allows for substantive compliance with the intent of the rule as opposed to strict adherence to a mandated standard. This permit implements the labeling requirements established in proposed WAC 173-308-260(4).

Monitoring

Section 7 of this general permit implements biosolids monitoring requirements in accordance with proposed Chapter 173-308 WAC. The state rule and general permit are generally consistent with federal requirements. An area of confusion exists, however, regarding the minimum frequency of monitoring and the concept of representative sampling.

Proposed WAC 173-308-150 specifies a minimum frequency of monitoring. It is important to acknowledge that this is a *minimum frequency.* In some cases more frequent monitoring may be necessary, and in no case should frequency of monitoring be confused with the number of samples required. For example, the *minimum* number of samples required to demonstrate Class B pathogen reduction under Alternative 1 *is seven at each sampling event*. Even if sampling once per year is adequate, more than one sample is still required. Therefore, the minimum frequency of monitoring reflected in this permit and proposed WAC 173-308-150 should be understood as baseline minimums. They should not be construed to imply that a single sample or sample event will be adequate in all circumstances for all purposes.

Consider two treatment works similar in all respects except that one stabilizes biosolids in an aerobic digester while the other employs a drying bed. In the prior case, more regular but less comprehensive sampling may be adequate. For the drying bed facility, sampling may be required only prior to land application of biosolids but may be necessarily more comprehensive at that time. In another scenario, consider a treatment works with a sharp seasonal variation in influent quality. Sampling once per year might lead to significant mischaracterization of the biosolids because it could not account for the identified seasonal fluctuation in influent quality. There are many variables that may affect both the necessary frequency and complexity of sampling. Therefore this permit provides for the development and inclusion of sampling plans as necessary.

It should not be overlooked that monitoring may also include observations at a land application site. Environmental monitoring at land application sites is not required under this permit, but can be imposed when necessary. Ecology encourages soil sampling for pollutants prior to application of biosolids. Sampling for soil nitrogen can be used where a more intensive approach to agronomic rate management is needed. Monitoring can also be helpful when there are questions about buffer widths to surface water bodies.

Landfill Disposal of Biosolids

Ecology recognizes that at times circumstances may require that sewage sludge be disposed of in a landfill. Disposal in a monofill, what the federal program calls "placing" of sewage sludge, will remain under the jurisdiction of the state solid waste program and the separate federal sewage sludge program. This permit provides for disposal of sewage sludge in a municipal solid waste landfill as a management option on an emergency, temporary, or long-term basis as defined in proposed WAC 173-308-080 and implemented in WAC 173-308-300. Uses of biosolids as a component of final or intermediate covers where vegetation will be established is considered a beneficial use. Use of sewage sludge in daily cover is considered disposal, the same as disposal directly in the landfill cell.

A need to dispose on an emergency basis is generally expected to occur as a result of circumstances largely beyond the control of an operator, and is defined as having duration of less than one year. Disposal on an emergency basis is automatically approved under this permit if certain conditions are met. Disposal as a temporary management option may occur for reasons similar to those for an emergency basis, but is expected to require at least one but not more than five years to resolve. In these cases an approved plan is required to demonstrate that disposal is not being sought as a long-term management option. When disposal is contemplated as a management option with no intent to pursue other alternatives, or for a period of more than five years, it is considered to be a long-term management option. This option will only be approved if a facility can demonstrate that other management options are economically infeasible. It is important to note that the demonstration must be one of infeasibility, and not simply greater expense.

Sewage sludge that is disposed of in a municipal solid waste landfill must pass a free liquids test and not be hazardous waste in accordance with proposed WAC 173-308-300(4) and (5). This approach is also consistent with regulations for municipal solid waste landfill management found in WAC 173-351-200(9) and 220(10), and also the requirements of 40 CFR Part 258 for municipal solid waste landfills. Part 503.4 and proposed WAC 173-308-300(3) also require that any landfill receiving sewage sludge be in compliance with the requirements of Part 258.

Incineration

Ecology does not encourage incineration of biosolids, which is a solid waste disposal practice and has a lower priority under state statutes than biosolids recycling. There are five communities that operate sewage sludge incinerators in Washington. Recognizing the significant investment those communities have made in their incineration programs, the agency does not believe it would be reasonable to compel them to pursue another form of biosolids management. As those incinerators age, the agency hopes the respective communities will adopt beneficial use programs.

Incinerators must shut down periodically to perform maintenance and also to repair malfunctions. In these cases it is sometimes necessary to dispose of the sewage sludge they

produce while the incinerators are shut down. Alternative options for disposal typically are transfer to another treatment works for processing through its sludge/biosolids management system, or disposal in a municipal solid waste landfill. Since incinerators are TWTDS, a permit is required for all sewage sludge management activities carried out by those treatment works, including incineration and alternative disposal options. Washington is not proposing a rule or permit to address incineration per se, but is proposing to authorize the foregoing short-term disposal options under this permit. Permitting of sewage sludge incineration will remain the responsibility of EPA.

Record Keeping and Reporting

This general permit implements requirements for record keeping and reporting in accordance with proposed WAC 173-308-290 and –295. Permit holders must keep records of the information used to develop applications for coverage under this permit, and must also keep records, including signed certification statements, regarding on-going biosolids management practices. Annual reports are required of all permit holders. In accordance with requirements of federal rules, annual reports from the larger, what are sometimes called "major" facilities, are required to be more comprehensive. The record keeping requirement allows for periodic inspection and verification of a facility's performance. The annual reporting function also supports verification of facility practices and allows the collection of information necessary to efficient management of the overall state biosolids program.

Fees

The 1997 State Legislature revisited the state biosolids program and established authority for Ecology to support the program through the collection of permit fees. Whenever possible, the agency is to base fees on the number of residences served by a treatment works, also known as the residential equivalent value. When a residential equivalent value cannot be determined, another approach may be used. The actual total residential equivalent value includes a measure for discharges from industrial facilities as well, and is reported by treatment works to the Department of Ecology Water Quality Program. The biosolids permit fee program will use the same values reported to the Water Quality Program. While the Legislature authorized Ecology to collect permit fees, it also established a spending limit of $567,000 for the 1997-99 biennium. So, while it is possible for Ecology to collect a larger amount of revenue, and in fact the workload may support a larger revenue stream, there is little point in doing so because of the spending limitation imposed by the Legislature. Ecology has proposed a permit fee system in draft WAC 173-308-320 that is designed to target the authorized spending level, although some variance is expected.

The permit fee system multiplies a basic cost per residential equivalent (the rate) times the number of residential equivalents (the base). The result is an annual permit fee. The permit fee incorporates the annual fiscal growth factor determined under RCW 43.135, but adjustment is then limited to the rate of growth in the state. While it is expected that the economy will

continue to grow, and therefore annual fees will increase marginally, it is also possible for rates to decline. Draft WAC 173-308-320 proposes five basic rates for coverage under this permit:

- $0.00 per residential equivalent for any facility that engages in any applicable biosolids management activity under this permit when the total residential equivalent value is less than 300.
- $0.015 per residential equivalent for municipalities that *own or operate* sewage sludge incinerators to dispose of municipal sewage sludge generated by their own treatment works in a municipal solid waste landfill or through another treatment works treating domestic sewage on an emergency basis.
- $.20 per residential equivalent for facilities disposing of sewage sludge in a municipal solid waste landfill, except for incinerators disposing on an emergency basis only.
- $0.04 per residential equivalent for permits issued to receiving-only facilities as defined in WAC 173-308-080.
- $0.162 per residential equivalent for any other type of biosolids management activity under this permit, including but not limited to:
  - Direct beneficial use by a treatment works treating domestic sewage;
  - Discharge by one treatment works to another treatment works, including delivery of biosolids to an incinerator from non-incinerating jurisdictions;
  - Prolonged treatment or storage, including lagoon systems;
  - Treatment or land application of septage.

Permit fees will be billed directly to permit holders by the department. A facility can calculate its approximate fee by determining the proper rate and multiplying by the number of residential equivalents, or by contacting the department directly.

Small Business Economic Impact Statement

A Small Business Economic Impact Statement was prepared for the proposed *Biosolids Management* rule, Chapter 173-308 WAC. With respect to economic impacts to small businesses, the department believes the requirements of the general permit are not substantially different than those of the rule, and is adopting the SBEIS prepared for the rule for this general permit. The SBEIS discusses impacts to septic tank cleaning and septage hauling firms, private treatment works, and compost producers. The report discusses elements of the rule that are designed to help mitigate economic impacts. It concludes that the "impacts of the proposed state rule on private sector businesses' revenues or profits should be, for the most part, neutral or minimal."

Guidance Documents

There are a large number of potentially helpful guidance and technical information documents that may be helpful to regulatory authorities, biosolids managers, and interested parties. There is also on-going research in many areas and new studies and reports are frequently available. No guidance documents are being adopted or incorporated under this general permit and the stipulations contained in guidance documents are not viewed as enforceable here. Ecology believes two guidance documents in particular will be helpful to persons evaluating permit or plan conditions in Washington State:

Biosolids Management Guidelines. (Working draft, final due early '98), WDOE 93-80.

Managing Nitrogen from Biosolids. (a cooperative publication of the Northwest Biosolids Management Association, area universities, and the Department of Ecology, to be released in early 1998)

The following resources produced by the United States Environmental Protection Agency have also been helpful to the agency and may be of further assistance:

A Guide to the Biosolids Risk Assessments for the EPA Part 503 Rule. EPA 832-B-93-005, United States EPA, September 1995.

A Plain English Guide to the EPA Part 503 biosolids Rule. EPA/832/R-93/003, United States EPA, September 1994.

Guide to Septage Treatment and Disposal. EPA/625/R-94/002, United States EPA, September 1994.

Domestic Septage Regulatory Guidance – A guide to the EPA 503 Rule. EPA 832-B-92-005, United States EPA, September 1993.

Part 503 Implementation Guidance. EPA 833-R-95-001, United States EPA, October 1995.

Environmental Regulations and Technology – Control of Pathogens and Vector Attraction in Sewage Sludge. EPA/625/R-92/013, United States EPA, December 1992.

Process Design Manual – Land Application of Sewage Sludge and Domestic Septage. EPA/625/R-95/001, United States EPA, September 1995.